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Focus Report

**IPCC Warns of Disaster From Accelerating Climate Change**

United Nations (UN) Secretary-General Ban Ki-moon, describing climate change as the “defining challenge of our age,” released the summary synthesis report (Report) by the UN’s Nobel Prize-winning Intergovernmental Panel on Climate Change (IPCC) on 17 November 2007. “Today the world’s scientists have spoken, clearly and in one voice,” Ban said. The Report synthesizes the science, the impacts, and options to ameliorate the impacts, based on three reports released earlier this year. It is available at <http://195.70.10.65/>.

Ban said climate change imperils “the most precious treasures of our planet.” The potential impact of global warming is “so severe and so sweeping that only urgent, global action will do.” Climate change may bring “abrupt and irreversible” impacts.

The IPCC said the world would have to reverse the growth of greenhouse gas (GHG) emissions by 2015 to prevent serious climate disruptions. “If there’s no action before 2012, that’s too late,” said Rajendra Pachauri, the scientist and economist who heads the IPCC. “What we do in the next two to three years will determine our future. This is the defining moment.” If we don’t act decisively by then, the consequences could be disastrous, said Pachauri. Without extra measures, GHG emissions will continue to rise. They are already growing faster than one decade ago, due, in part, to more coal use.

The Earth is hurtling toward a warmer climate at a quickening pace, the IPCC reported. Opening with a sweeping statement directed at climate change skeptics, the IPCC declared that climate systems have already started to change. Unless action is taken quickly, human activity could lead to “abrupt and irreversible changes.” Viewing the data as a whole, scientists said the Report creates new emphasis and alarm.

Ban said that, in the last five years, scientists have recorded much stronger trends in climate change. These include recent rapid melting of Arctic ice that had not been predicted. “That means you better start with intervention much earlier,” he noted. This Report was the first to acknowledge that the Greenland ice sheet could melt over just a few centuries, rapidly raising sea levels by 7 meters. “Many of my colleagues would consider that

kind of melt a catastrophe,” said Michael Oppenheimer, a climate scientist at Princeton University (Princeton, New Jersey, USA).

“It’s extremely clear and is very explicit that the cost of inaction will be huge compared to the cost of action,” said Jeffrey Sachs, director of Columbia University’s Earth Institute (New York, New York, USA). “We can’t afford to wait for some perfect accord to replace Kyoto, for some grand agreement. We can’t afford to spend years bickering about it. We need to start acting now.”

The IPCC reiterated that climate change is “unequivocal,” and may bring “abrupt and irreversible” impacts. Human emissions of GHGs are over 90% likely to be the main cause of climate change. This is more certain than before.

## Impacts

The IPCC considered 29,000 real-world studies in compiling the Report. These include observations showing that dry areas of the world, such as the Sahel and southern Africa, are receiving less rainfall, while rain has increased in northern Europe and parts of the Americas.

The science has become firmer about the scale of the impacts. A global climate disaster could leave island nations submerged and abandoned, reduce African crop yields by 50%, and cause a 5% decrease in global gross domestic product. As early as 2020, 75 million to 250 million people in Africa will suffer water shortages, river and coastal flooding will beset residents of Asia’s megacities, Europeans can expect extensive species loss, and North Americans will experience longer and hotter heat waves and greater competition for water, the Report said.

Glaciers will be melting faster. Some 20–30% of species assessed so far are at higher risk of extinction if global temperatures rise more than 1.5°C–2.5°C above 1980–1999 levels. Other potential impacts highlighted include:

- (1) yields from rain-fed agriculture could be halved,
- (2) food security will be further compromised in Africa, and
- (3) there will be widespread damage to coral reefs.

Eastern Amazonia is likely to gradually change (around mid-century) from rainforest to savannah. In many sections of the world, droughts are projected to increase. Semi-arid regions will turn arid and deserts will expand faster. This has already been happening, earlier than expected. The rate of future increase is uncertain. Africa, Latin America, Australia, and much of Asia are especially vulnerable. Increased intensity for hurricanes and other tropical storms is also likely, according to the Report. Recent research has heightened concern that the poor and the elderly will suffer most from climate change; that hunger and disease will be more common; and that droughts, floods, and heat waves will afflict the world’s poorest regions.

The IPCC says more heat waves are very likely in the future. Worldwide temperatures will probably rise 1.8°C–4.0°C. In the best-case scenario, temperatures will continue to rise from carbon already in the atmosphere, the Report said. Temperatures have risen almost 1°C in the last century (see <http://data.giss.nasa.gov/gistemp/tabledata/GLB.Ts.txt>). We are already committed to another 0.6°C warming.

The IPCC synthesis report does not address three major positive feedback loops, or tipping points. These include fading carbon sinks (see “Oceans Are Soaking Up Much Less Carbon,” *BATE*, November 2007); changing Earth’s albedo to absorb more sunlight by changing white ice to dark water, as occurred this summer in the Arctic Ocean, and is happening as dark forests advance north (see “Tipping Points Near,” *BATE*, December 2007); and liberating some of the vast amounts of carbon stored in permafrost. Positive feedback loops may raise temperatures above the range stated in the Report.

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Sea level is likely to rise by 28–43 centimeters this century, even if there is very little melting in Greenland or Antarctica, according to the Report. It now said Arctic summer sea ice is likely to disappear in the second half of the century, decades earlier than expected. Summer ice actually decreased 20% in 2007 alone (see “Northwest Passage Opens,” *BATE*, October 2007). Even if factories were shut down today and cars were taken off the roads, the average sea level will reach as high as 4.5 feet (1.4 meters) higher than during the pre-industrial period due to thermal expansion of seawater alone. “We have already committed the world to sea level rise,” said Pachauri. If the Greenland ice sheet melts, seas will drown coastal cities.

“If you look at the overall picture of impacts, both those occurring now and those projected for the future, they appear to be both larger and appearing earlier than we thought” in the 2001 report, said Martin Parry, co-chair of the impacts working group. “Some of the changes that we previously projected for around 2020 or 2030 are occurring now, such as the Arctic melt and shifts in the locations of various species.” This imparts a new and striking sense of urgency, he added.

### Averting Catastrophe

The Report also lays out blueprints for avoiding the worst catastrophes. “There are real and affordable ways to deal with climate change,” Ban said. “Stabilization of emissions can be achieved by deployment of a portfolio of technologies that exist or are already under development,” said Achim Steiner, head of the UN Environment Programme.

Ban called on the United States and China to play a more constructive role. His challenge to the world’s two greatest GHG emitters came just two weeks before the world’s energy ministers met in Bali, Indonesia (see related article in Climate Change Update), to begin talks on creating a global climate treaty to replace the Kyoto Protocol, which expires in 2012. He expected the world’s policymakers to speak clearly and with one voice in Bali. He added, “The breakthrough needed in Bali is for a comprehensive climate change deal that all nations can embrace.” He said that

delegates in Bali should take action immediately where they agree, for example, on public financing for new technologies like carbon sequestration.

UN officials pointed out that strong policies were needed, like increasing the energy efficiency of cars and setting up carbon markets. Carbon markets force companies and countries to pay for the cost of the GHGs they emit. The European Union already has one in place for many industries, and is trying to bring airlines into the plan.

Ban said a new agreement should provide funding to help poor countries adopt clean energy, and to adapt to changing climates. Energy ministers should start a global fund to help poor countries avoid deforestation, which releases GHGs and reduces the uptake of carbon through photosynthesis.

The good news is that the IPCC’s economic analyses say the trend of rising emissions can be reversed at reasonable cost. Indeed, it says there is “much evidence that mitigation actions can result in near-term co-benefits (e.g., improved health due to reduced air pollution)” that may offset costs. Emissions can be reduced a lot at negative cost by using energy more efficiently. Money saved more than pays for the money invested.

After the Report was approved, James Connaughton, chairman of the US Council on Environmental Quality, said that US President Bush agreed with leaders of the other major industrialized nations that climate change “warrants urgent action, and we need to bring forward in a more accelerated way the technologies that will make a lasting solution possible.” Sharon Hays, Associate Director of the US Office of Science and Technology Policy, said “What’s changed since 2001 is the scientific certainty that this is happening. Back in 2001 the IPCC report said it is likely that humans were having an impact on the climate,” but confidence in human responsibility has increased since then. She noted that the United States had invested US \$12 billion in climate research since 2001.

For more information, see <http://abcnews.go.com/Technology/wireStory?id=3880571>; <http://news.bbc.co.uk/2/hi/science/nature/7098902.stm>; and [www.nytimes.com/2007/11/18/science/earth/18climatenew.html?\\_r=1&oref=slogin](http://www.nytimes.com/2007/11/18/science/earth/18climatenew.html?_r=1&oref=slogin). ■

## Perspectives

### Environmental Issues on the Horizon — A “Panel” Discussion (Part 2)

**T**his month we continue with our “panel discussion” regarding what key players at the helm of forward-looking organizations see as emerging environmental (and related) issues.

#### Use of Natural Resources and Energy (Continued)

**BATE:** Has your organization evaluated ways to reduce energy use? Such as switching to more power-efficient machines/devices?

**PANELISTS:** Respondents indicated that they use such concepts as having computers go into hibernation when not in use, making sure heating equipment is Energy Star rated, and replacing fleet vehicles with hybrids. Energy efficiency is particularly important for equipment designed to run 24/7, like dust collectors and pre-treatment systems. Electronic standards, such as EPEAT, may also help with more efficient equipment purchases down the road.

One respondent indicated that they had uncovered significant financial savings through their energy projects. Phase one of a datacenter build out began with a hardware consolidation and refresh project that took three months, increased computer power by more than 450%, and is expected to save US \$1.1 million in energy costs per year.

**BATE:** Retro-fitting light sensors and other such devices?

**PANELISTS:** Respondents indicated that they used a variety of means to cut down on energy use, including installing motion sensors and timers, re-lamping (as technology justifies the upgrades), and green building design elements, including retrofits for lighting and conveyor motors, off-peak battery charging, etc. New building construction would include these elements as part of the new building design.

**BATE:** Evaluating your organization’s IT power needs, including power required for servers?

**PANELISTS:** One respondent indicated that they had modified servers to go into hibernation mode during slow customer search times to save on electricity consumption.

Sun Microsystems noted that it had evaluated IT power and design needs during the development of the Next-Generation, Energy Efficient Datacenters and reduced the company’s energy bill by 60%. The

three new datacenters run exclusively on Sun’s line of energy efficient products, including Sun Fire T1000/T2000 servers, x64 servers, and the Solaris Operating Systems.

**BATE:** Evaluating alternative power sources, such as solar, purchasing offset credits, or other alternatives?

**PANELISTS:** Some respondents said that, while they have evaluated options, none so far have proven feasible. Others, such as EBSCO Publishing, have had great success with photovoltaic systems and other renewable power sources, such as wind. If a company can’t install onsite renewable power sources, such as photovoltaic panels or wind turbines, they can always purchase Green-e certified renewable energy credits (RECs).

One respondent noted that the primary tool for lowering the company’s carbon footprint is to reduce energy consumption. Since electricity use accounts for 90% of that respondent’s greenhouse gas (GHG) emissions, reducing consumption is the most significant way to effect a change in the company’s footprint.

Another respondent indicated that their company was considering different ways to achieve GHG emissions reductions goals. The company has a goal to introduce a companywide GHG management plan by the end of fiscal 2008. As part of this work, the use of alternative energy and carbon offsets will be continually reviewed.

**BATE:** Negotiating with your power company for innovative alternatives?

**PANELISTS:** Responses included:

- The local power company supported our photovoltaic system installation project.
- We have some grid connected renewables, and are looking to add more renewables into the supply side contracts.
- From Sun Microsystems: We announced in 2006 a first-of-its-kind server rebate program with California utility PG&E. Upgrading to Sun Fire T1 and T2 servers now qualifies California businesses for an energy rebate from PG&E worth between \$700 and \$1,000 per server. Silicon Valley Power (SVP) was especially interested in how our “pod concept” and “spot cooling” innovations reduced our power consumption. This

concept groups racks and servers into pods so that a modular, scalable air conditioning system and chilled water pumps to cool off the servers directly overhead as they heat up, rather than having to cool the entire datacenter in a blanket-like fashion. With pods and spot cooling, we put the cool air/chilled water directly where it is needed most, as it's needed. We carefully documented the energy savings with SVP and once the implementation was complete, we projected annual energy savings per cooling unit as well. As a result, Sun received over \$1 million in rebates and power efficiency awards. Included within that rebate figure was SVP's first-ever power efficiency award of \$250,000 for our cooling system work.

**BATE:** Implementing in-house procedures to save power?

**PANELISTS:** Responses included turning devices off when possible, making process modifications, and using newer equipment with higher energy efficiency. One respondent said that 1,800 locations are centrally managed to help monitor and conserve energy. The company identifies retrofit opportunities and capital upgrades when appropriate.

Sun's Open Work program eliminates about 30,000 metric tons of carbon dioxide (CO<sub>2</sub>) emissions each year, the equivalent of taking 6,700 cars off the road, by allowing employees to work from home or in a flexible office. Open Work saves the company \$69 million in costs per year. Sun also has a Holiday Shutdown where e-mail reminders are sent out asking that employees shut off lights, computers, and monitors before leaving for their break. By doing this, Sun realized over \$100,000 in electricity savings and eliminated about 58 metric tons of CO<sub>2</sub>.

**BATE:** Have you considered including your power utility in discussions for identifying potential and innovative savings opportunities?

**PANELISTS:** While respondents have done this, some indicated that the opportunities have been limited to date, while others indicated that many have programs for both "demand side management" and "demand response programs" that reduce consumption, cost, and carbon emissions.

**BATE:** If your response was "no" to any of the previous questions, was cost a factor?

**PANELISTS:** One respondent noted that the rate of return did not meet the corporate guideline of 20% or better.

### Additional Cost Cutting Considerations

**BATE:** Besides power consumption, were there any issues requiring cost cutting within your top five (business issues)?

**PANELISTS:** One respondent said that productivity, safety, and environmental performance were more important than cost cutting. Another indicated that cost cutting plays a role in sales/marketing (to increase market share) and offsets increased R&D for new product development. Waste reduction and recycling also offer opportunities for cost savings and revenue generation.

**BATE:** Has your organization performed a comprehensive analysis to determine where cost cutting opportunities could be realized in product design/manufacture? In packaging? In shipping and related fuel costs? In waste management reduction?

**PANELISTS:** Responses included delivering product manuals and informational literature electronically, instead of being mailed as hardcopy, and recycling all office paper materials. One respondent indicated that ongoing efforts are implemented to examine cost reduction/operational excellence projects in all areas previously mentioned. Another reexamines pricing periodically, and has examined waste management and natural gas purchasing in the last few years.

**BATE:** Is cost cutting part of your management's evaluation for future projects as part of capital planning? Would building designs that incorporate environmental benefits, such as the US Green Building Council's ([www.usgbc.org](http://www.usgbc.org)) Leadership in Energy and Environmental Design (LEED) Rating System, be worthwhile to pursue at any of your facilities?

**PANELISTS:** One respondent indicated that their company is trying to evaluate capital investments based on life cycle analysis. Others said that LEED certification is definitely considered when planning new construction. One organization is currently breaking ground on two LEED Gold buildings in Miami and Boston. ■

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## Corporate Reporting

### European Companies Top Accountability Ratings

According to *Accountability Rating 2007*, the Fortune Global 100 are more accountable than ever, with European companies leading the pack. *Fortune* magazine recently reported the results of the ratings — the fourth annual assessment produced by international think tank AccountAbility ([www.accountability21.net](http://www.accountability21.net)) and CSR consultancy csrnetwork ([www.csrnetwork.com](http://www.csrnetwork.com)). As in the past three years, companies were rated based on their voluntary reporting and public documents, on the way sustainable business practices are embedded in corporate strategy, stakeholder engagement, and the independent assurance of their reports. In addition, Swiss investment information provider Asset4 ([www.asset4.com](http://www.asset4.com)) developed a new measuring tool for this year's analysis to evaluate the actual impacts of companies' social and environmental performance. Performance scores are based on three components: the number of controversies involving the company, its progress toward reducing its carbon footprint, and its involvement in multi-stakeholder initiatives.

In general, European companies scored highest, holding 18 of the top 20 rankings. BP ranked highest overall, up from second place in 2006, but with only a C average (75.2 of 100 points). Only half of the 2006 top 10 maintained their top 10 rank, due primarily to the addition of the performance rating (BP, HSBC Holdings, Vodafone, Royal Dutch/Shell Group, and HBOS). Barclays, ENI, Peugeot, Chevron, and DaimlerChrysler moved into the top 10; ENI moved up 25 slots. AccountAbility suggests that those in the spotlight and/or facing the greatest challenges rank higher — oil and automobile sectors rank highest. Retail and “fast-moving consumer goods” companies rank lowest.

Unfortunately, the study found little correlation between accountability and economic performance. General Electric's Ecomagination portfolio is one of only a few that can demonstrate a link between their accountability rating and their financial success. There are several possible reasons for this disappointing lack of reward. Companies' sustainability programs may be relatively new, leaving corporate leaders unaware of ways to “exploit” their potential. Or companies may simply have not yet garnered the support of investors. There may indeed be no business case for some sustainability practices. Nonetheless, Alex

MacGillivray, head of programs at AccountAbility, reports, “There is not a perfect correlation between accountability and financial performance, but there is clear evidence showing that where accountability systems are strong, firms are better at identifying and bouncing back from commercial risks.”

*Fortune* magazine's Simon Zadek had another take on the apparent discrepancy: “Although this year's results demonstrate that today's largest companies are trying to shift gear, history suggests that few will succeed in retrofitting their business models to succeed in tomorrow's markets. It's more likely that many of tomorrow's Fortune Global 100 companies are today's unknown or not-yet-existing business ventures, and will be designed from the ground up to embed sustainability into their products and processes. Our greatest opportunity as investors, employees, and consumers is to bet on those companies that move beyond fine words to deliver innovation that profitably addresses emerging social, environmental, and economic issues.”

Results of the Accountability Rating 2007 as reported by *Fortune* magazine are available online (see “Inconvenient but True,” Simon Zadek, 1 November 2007, [http://money.cnn.com/magazines/fortune/fortune\\_archive/2007/11/12/101012017/index.htm](http://money.cnn.com/magazines/fortune/fortune_archive/2007/11/12/101012017/index.htm)). The ratings' Executive Summary is available for download from csrnetwork ([www.csrnetwork.com](http://www.csrnetwork.com)). For those not in the Fortune Global 100, AccountAbility's benchmarking service is available to all interested. See contacts below. ■

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### Ceres Makes Corporate Responsibility Reports Available

Ceres, founded in 1989, is a national network of investors, environmental organizations, and other public interest groups working with companies and investors to address sustainability challenges, such as global climate change. The network manages trillions of dollars in assets. Ceres works to integrate sustainability into capital markets for the health of the planet and its people.

Among its many activities, Ceres collates and makes available Company Sustainability Reports, for both member companies and outside companies. The reports are compiled by CorporateRegister.com. Companies with Ceres-linked corporate sustainability reports include APS, Aspen Skiing Company, Aveda, Bank of America, Baxter International, Ben and Jerry's Homemade, Blue Wave Strategies, Catholic Healthcare West, Coca-Cola, Consolidated Edison, Dell, Earth Friendly Products, Eileen Fisher, Episcopal Diocese of Massachusetts, First Environment, First Affirmative Financial Network, Ford, General Mills, General Motors, Green Leaf Composting, Green Mountain Coffee Roasters, Green Mountain Energy, Green Mountain Power, Hardwood Products Company, Interface, ITT Industries, Louisville & Jefferson County Metropolitan Sewer District, McDonald's, National Grid USA, Nike, Northeast Utilities, PG&E, Plan A, PPL, Real Goods Trading Corp., Recycled Paper Printing, Seventh Generation, State Street, Sunoco, The Body Shop International, Timberland, Time Warner, Vancouver

City Savings Credit Union, Wainwright Bank & Trust Company, and YSI Incorporated.

CorporateRegister.com links to many more corporate sustainability or responsibility reports that can be easily downloaded. They include American Electric Power, Aracruz Celulose, Barclays, Bayer, BG Group, BP, Bradford & Bingley, British American Tobacco, Camelot Group, Chevron, Crest Nicholson, Deutsche Telekom, E.ON UK, Exxon Mobil, GlaxoSmithKline, HBOS, Hess, Hewlett-Packard, Insurance Australia Group, KBC Group, Legal & General Group, L'Oreal, Marks & Spencer, Nationwide Building Society, NEC, Nexen, Novo Nordisk, O2 (Telefónica Europe), Peugeot Citroën, PRUPIM, Rabobank Group, Royal Dutch Shell, RWE, SABMiller, SEGRO, Shire Pharmaceuticals Group, UK Ministry of Defence, Vodaphone Group, and WestLB.

For more about Ceres, see [www.ceres.org/](http://www.ceres.org/). For more about CorporateRegister.com, and to download company reports, see [www.corporateregister.com/](http://www.corporateregister.com/). ■

## Corporate Initiatives

### Green Chemistry — Good for Physical and Fiduciary Health

Even before the recent spate of toy recalls (see *BATE*, October 2007, p. 11), investors were increasingly identifying the risks of toxic chemicals, not only to their personal well-being, but to their portfolios as well. According to the Investor Environmental Health Network (IEHN), the number of companies facing shareholder resolutions on chemical risks rose from a mere three in 2004–2005 to 17 in 2006–2007. With this year's continued litigation, product recalls, sales bans, and tainted brand names, it is likely that an even higher number of businesses will face resolutions next year.

In response, IEHN has produced two informational documents. The "Fiduciary Guide to Toxic Chemical Risk" is a 52-page guide aimed at institutional investors. It explores the "financial dimensions" of chemical risks, methods of quantifying these risks, and offers a "road map" to guide investors through the conversion of the dangers posed by toxic chemicals into opportunities for profitable portfolio stewardship. IEHN has also released "Toxic Chemicals in Products: Financial Risks and

Opportunities," a 20-minute video "short-course" on the relationship of toxic chemicals to investor risks and opportunities. Both products are available for free download from IEHN. Richard Liroff, Executive Director, IEHN, said, in response to the publications, "Regulatory controls are tightening around the globe, not only in Europe, but also in US states such as California, and in developing markets such as Korea and China. The failure to address safer materials is causing products to be locked out of markets. By contrast, corporate efforts to minimize or avoid exposures, or to offer safer alternatives, can benefit corporate bottom lines and reward investors."

Liroff's point is brought home through several examples in the video. For instance, SC Johnson has patented a Greenlist product review system to ensure that the company's manufactured goods contain the "best available" materials for consumers and the environment, while maintaining both high performance standards and low costs. By reformulating Windex glass cleaner under this program, the company removed 1.8 million pounds of volatile organic compounds and

increased cleaning power by 30%. In addition, both product sales and market share increased.

SC Johnson's Greenlist system is also one of 10 exemplary programs featured in a mini-case study series available at no cost from Darden Business Publishing (University of Virginia, USA). *Environment, Health, and Sustainable Business Enter the Mainstream: A 10 Mini-Case Set*, "describes how 10 mainstream companies cut costs, grew revenues, increased profits, differentiated products and services, and enhanced brands by implementing sustainability strategies—while increasing efficiencies, reducing waste, eliminating chemical hazard and toxicity, and curbing degradation of ecological systems and community health." Clearly, detoxifying manufacturing processes and products can be healthy for consumers, the environment, businesses, and investors. ■

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## The Energy Independence and Security Act of 2007

US President George Bush signed into law an energy bill on Wednesday, 19 December 2007, that mandates the first increase in vehicle fuel economy in 32 years. The Energy Independence and Security Act of 2007 will boost the combined average fuel economy for cars and small trucks by 40% to 35 miles per gallon by 2020. The landmark increase in fuel-economy standards for vehicles is viewed as a huge catalyst for alternative fuels. The Act also requires a six-fold increase in the use of ethanol as a motor fuel to 36 billion gallons per year by 2022, with 21 billion gallons to be cellulosic ethanol from such feedstocks as prairie grasses and wood chips. The new law also requires more energy efficient lighting and appliances, such as refrigerators and dishwashers, and more energy efficient federal and commercial buildings. And new

and renovated federal buildings will be required to reduce their fossil fuel-generated energy consumption compared to that of 2003 vintage buildings.

The US House of Representatives passed the bill by a margin of 314–100 on Tuesday, 18 December, after the US Senate passed the measure the previous week. "This is a choice between yesterday and tomorrow," said House Speaker Nancy Pelosi (Democrat-California). "It's groundbreaking in what it will do."

But Pelosi and Senate Majority Leader Harry Reid (Democrat-Nevada) didn't get everything they wanted in the legislation. Last Thursday, a pared-down energy bill cleared the Senate after intense lobbying from the oil and utilities industries successfully stripped out key provisions of the bill that would have cost them billions of dollars by repealing oil industry tax breaks. A provision that would have required utilities nationwide to obtain 15% of their energy production from renewable resources by 2020 was also dropped from the Senate version to garner the Republican Senate votes. Senate Republicans had previously rejected the renewable electricity standard and the repeal of the oil industry tax breaks when it first considered the bill in June 2007 but it was still included in the version that sailed through the House the previous week. Last week, Senate leaders agreed to drop the renewable energy section and, to ensure passage of the bill, Reid said that he would reluctantly remove the tax provisions as well, thus ensuring that the bill would pass. Also excised from the bill was an extension of the production tax credit for renewable energy. The watered-down version of the bill passed the Senate 86–8.

As Pelosi sees it, energy independence is not only an economic and environmental issue, it is also a national security issue. The bill, even watered down, should put America well on the road to energy independence, while strengthening its national security, growing its economy, reducing energy prices at the pump, and beginning to address climate change in earnest. "[It's] a shot heard round the world for energy independence," she said.

For more information, see [www.theglobeandmail.com/servlet/story/RTGAM.20071219.wcongress19/BNStory/International/home](http://www.theglobeandmail.com/servlet/story/RTGAM.20071219.wcongress19/BNStory/International/home). The text of the bill can be found at <http://thomas.loc.gov/cgi-bin/query/D?c110:8:./temp/~c110WhbdHY:>. Portions of this article provided by CCH Washington Bureau, December 2007. ■

## Regulation Needed to Boost Energy Efficiency

Future energy demands and greenhouse gas emissions can be reduced in economically beneficial ways, but government intervention will be required to spur needed investments, says a new report from the McKinsey Global Institute. The report can be downloaded at [www.mckinsey.com/mgi/publications/Curbing\\_Global\\_Energy/index.asp](http://www.mckinsey.com/mgi/publications/Curbing_Global_Energy/index.asp).

In the base case scenario, world energy demand will grow by 2% per year to 2020, faster than the 1.7% per year since 1986. However, capturing available economic opportunities could cut demand growth below 1% without compromising economic growth, concludes McKinsey. The report says that concerted global effort to boost energy productivity would have spectacular results. By capturing the potential available from existing technologies with an internal rate of return of 10% or more, global energy demand growth could be cut by half or more over the next 15 years.

McKinsey identifies consumers as the drivers of energy consumption. Residential and consumer buildings, plus road transportation, account for 57% of projected energy growth to 2020 in the base case. Efficiency improvements are feasible, but government intervention is needed to resolve market inefficiencies and distortions that prevent consumers and companies from capturing the savings from higher energy productivity, concludes the report.

Even a sustained oil price above US \$70 per barrel would not significantly curb energy demand in the face of market barriers, it adds. World prices are not always reflected in consumer prices. End users lack information and incentives to help them capture efficiency opportunities. Further, many policies dampen price signals and reduce incentives for end users to adopt energy productivity improvements. These include average cost pricing for utilities and subsidies for fossil fuels.

Residences account for one-quarter of global demand. Here is where the largest energy productivity opportunities are waiting to be seized. Already planned policies will cut residential energy growth by 15% of consumption in 2020. But additional measures, strictly enforced, could boost energy productivity and cut demand by a further 21%. The commercial sector, including office and retail buildings, hotels and restaurants, schools and

hospitals, could cut its 2020 energy use by 20% from the base case.

Energy demand for road transportation is the most sensitive to oil prices. Many consumers are shielded from changes in the oil price by subsidies, leaving room for substantial energy productivity improvement opportunities.

The global air-transport industry accounts for 6.6% of global oil use, which is expected to grow strongly. Options to reduce this growth are limited, chiefly reducing air travel, increasing the seats per plane, and using lighter materials.

Recommended policies include: (1) ending fuel subsidies, which could cut oil use by 3 million barrels per day; (2) tightening fuel economy standards for vehicles; (3) mandating efficient lighting and reductions in standby power; (4) strengthening standards for commercial buildings and enforcement in China, where compliance is less than 5%; (5) disaggregating utility bills to show consumers where costs are incurred; and (6) accelerating energy efficiency investment through demonstration projects, energy audits, subsidies, tax credits, and/or low rate financing.

For more details, see <http://tinyurl.com/22fold>. ■

## Capturing the Gains From Carbon Capture

JP Morgan foresees that carbon capture and sequestration (CCS) will create an extremely large industry, beginning over the next five years. The growing industry is driven by mounting concern about climate change. Its report, “Capturing the Gains from Carbon Capture,” looks at opportunities to stake out roles in this new industry.

Five methods exist to reduce carbon emissions: use less energy, use carbon-free energy, use less carbon-intensive energy, get more electricity from each pound of coal, and/or do CCS. JP Morgan thinks the second and third methods are unlikely to lower coal consumption over a meaningful time horizon.

Small-scale CCS projects are operating, usually to enhance oil recovery. CCS involves three steps: capture at the source, transportation by pipeline, and injection deep underground for storage. Capture can occur in one of three ways: pre-combustion, flue gas separation, or oxygen-fuel combustion. The third method involves removing nitrogen from the inlet air. Solvents targeted at carbon dioxide (CO<sub>2</sub>) are used in the first and second

methods. Each method has its costs, both direct and indirect, as efficiency penalties.

The jury is very much still out on which process will be most cost effective. JP Morgan says that CCS is generally cheaper than wind or solar, when combined with enhanced oil recovery, but usually a little more expensive when it is not. Currently, CCS is expected to add US \$0.01-\$0.05 per kilowatt-hour to the cost of coal-fired generation.

Many methods of carbon capture involve integrated gasification combined cycle (IGCC) coal power plants. IGCC is a new technology, and is improving rapidly. It is the easiest technology to integrate with CCS. The financial viability of CCS depends entirely on the costs that firms face for emitting CO<sub>2</sub>. Projected emission costs may make CCS commercially attractive in Europe as early as 2013, but probably not until after 2020 in the United States. The report foresees that most new US coal-fired power plants will be designed to accommodate CCS retrofits. Legal obstacles, including rules about

ownership of rights to inject gases below a surface, remain. Partial or full liability shields may be required.

The report posits that CCS will create highly significant business opportunities for oil-field service companies with proprietary technology, construction and engineering companies with expertise in chemical engineering, designers and manufacturers of coal power plants, chemical companies with expertise in membrane and filter technologies, and oil producers that can use CO<sub>2</sub> for enhanced oil recovery and also charge utilities to sequester it. The report examines 18 well-positioned companies, including Halliburton, Schlumberger, the Washington Group, Fluor, Alstom, General Electric, Siemens, and Praxair. ■

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## Product Stewardship and Takeback

### Microwave Technology Turns Auto Parts to Fuel

**A**ccording to Global Resources Corporation (GRC), automobiles are the most recycled high-volume consumer product in the United States. But for every ton of steel recovered from the scrap, 500 to 700 pounds of auto shredder residue (ASR) is produced. Currently, almost all ASR is landfilled, resulting in the loss of both valuable materials and landfill space. In response, GRC recently announced the inaugural industrial application of its Hawk 10 recycling machine. Gershow Recycling (New York, USA) will use the Hawk 10 to convert ASR into oil and gas. The Hawk 10 uses high-frequency microwave technology to break down ASR into fuel — about 80% light combustible gases and 20% oil — which in turn will be used to power the closed-loop recycling system. In addition, the process allows for the separation of more metal from ASR, which is expected to reduce landfill waste by as much as 65%.

“We expect Gershow Recycling to capture a full return on their investment within one year of use, thanks to HAWK 10’s incredible efficiency, and its ability to lower expenses and recover profit,” says

Frank Pringle, CEO of GRC. “We’re on the cusp of an energy revolution in our country, and alternative energy technology such as ours offers a clear way to cheaper, cleaner fuel, and higher profits.”

GRC also has a patent pending for a microwave process to extract oil and petroleum products from a variety of sources, including shale deposits, tar sands, depleted oil fields, waste oil streams, and bituminous coal. The company anticipates that this new technology will “dramatically reduce the cost for oil and gas recovery from a variety of unconventional hydrocarbon resources.” ■

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## EU Aces Beverage Carton Recovery

According to the latest statistics from the Alliance for Beverage Cartons and the Environment (ACE, Belgium), in 2006, some 12 billion beverage cartons were recycled across Europe (including the European Union [EU] Member States plus Norway and Switzerland). This represents 313,000 metric tons (Mt) and a recycling rate of 30%. Combined recycling and recovery rates climbed to 639,000 Mt (61%). Not only does recycling save resources, ACE also says that, by avoiding sending these containers to landfills, greenhouse gas emissions were reduced by about 280,000 Mt in 2006 alone.

Two Member States, the United Kingdom (UK) and Poland, have recently undertaken additional programs to further boost collection and recycling. A partnership between Tetra Pak UK, ACE UK, and various municipalities aims to increase household

packaging recycling opportunities in more than 70% of UK cities. In Poland, ACE manufacturers have joined with food, juice, and dairy associations, the packaging chain, and the Polish Environment Ministry in signing the country's first voluntary agreement to increase the collection and recycling of beverage cartons. The agreement has a target of reaching a country-wide recycling rate of 15% by 2014.

ACE reports that beverage carton recycling has increased by an average 12% per year since 1992, exceeding market growth. This is an impressive achievement by manufacturers, as the EU does not impose legal targets for recycling beverage cartons, nor do most Member States. ■

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## ISO 14000 Update

### The 18k Gold Standard — Barrick Gold Corporation's EMSS

Each industry sector is faced with its own unique set of environmental, health, and safety (EH&S) issues, and each sector responds in kind with effective solutions to help mitigate, if not control, these myriad issues. With the advent of ISO 14001 in 1996, regulated entities of all types have looked to that standard as a tool to harness the forces required to address these issues. Since that time, various groups and sectors have looked to build upon the framework of an environmental management system (EMS) to suit their specific needs. For example, the American Chemical Council's issuance of their Responsible Care RC-14001 standard, which melds the elements of ISO 14001 with Responsible Care's Codes of Practice. (For additional information about RC-14001, see [www.americanchemistry.com/s\\_responsiblecare/doc.asp?CID=1298&DID=5086](http://www.americanchemistry.com/s_responsiblecare/doc.asp?CID=1298&DID=5086).) Another example is the US Environmental Protection Agency's Performance Track, which encourages facilities with robust environmental programs to go above and beyond their legal requirements and steer a course toward environmental excellence. Among the criteria for membership first and

foremost is an EMS, with the general understanding that a well-crafted EMS can steer a company toward environmental excellence. (For additional information, see [www.epa.gov/performance-track/](http://www.epa.gov/performance-track/).)

With equal fervor, the mining industry has looked at how it does business. One company that has taken a closer look at its own EH&S responsibilities is the Barrick Gold Corporation, headquartered in Toronto, Canada. In December 2005, Barrick released an Environmental Management System Standard (EMSS) developed by environmental staff from all of its Regional Business Units. The driving force for this EMSS was to ensure that the Company adheres to its own Environmental Policy Statement, which states, in part: "[the Company will] establish and maintain a clearly defined environmental management program to guide its operations."

The EMSS consists of 15 elements that incorporate all of the elements of ISO 14001:2004, along with unique Barrick considerations, such as Risk Assessment, Project Life Cycle Planning, Accountability, and Incident Reporting and Investigation. In addition, each element also includes a statement related to the environmental conduct the

Company expects in the execution of that element, followed by a detailed list of management system requirements that represent the specific systems, practices, procedures, and tasks that are, at a minimum, required to meet the Company's standard of conduct. While the EMSS was designed to be consistent with ISO 14001, its language is deliberately more general to allow each facility or unit within the Company more flexibility with its implementation. As part of the Company's overall goal for the success of the EMSS, their corporate Environmental Department will conduct audits at each facility to assess adequacy with each unit's implemented EMSS.

All of Barrick's activities, including joint ventures where Barrick is the majority owner, come under the EMSS, including operation, exploration, acquisition, development, construction, decommissioning, reclamation, and closure. Where Barrick has a minority equity stake but no operational authority, the Company will make their EMSS available to the operator and request cooperation from the operator.

The EMSS includes the following elements:

- *Leadership and Commitment:* Barrick is committed to environmental protection and stewardship in all of its business activities — officers and managers are expected to provide visible environmental leadership.
- *Legal and Other Requirements:* All applicable environmental requirements are identified and tracked so that full compliance can be effectively achieved.
- *Risk Assessment:* Environmental issues and risks are systematically assessed to set priorities for risk management, ensure adequate controls, and drive continuous improvement.
- *Project Life Cycle Planning:* Environmental issues are anticipated and managed during all stages of the project life cycle (e.g., consider potential environmental issues and liabilities and document environmental conditions of properties prior to divesture).
- *Objectives, Targets, and Plans:* Formal objectives, targets, and supporting action plans are established annually and updated regularly to achieve full compliance and continuous improvement in environmental performance (e.g., assign responsibility, establish milestones and schedules, and allocate adequate resources to implement action plans and achieve objectives and targets).
- *Responsibility and Accountability:* Environmental roles and responsibilities are defined and understood — [employees are] empowered and held accountable for carrying them out.
- *Competence, Training, and Awareness:* Personnel are competent to carry out their assigned environmental-related responsibilities.
- *Operational Controls and Maintenance:* Controls are in place to manage environmental performance, risks, and compliance.
- *Change Management:* Environmental risks associated with changes to existing organization, personnel, properties, operations, and processes are identified and mitigated.
- *Contractors, Suppliers, and Vendors:* Environmental performance, programs, and risk management are considered in the selection and management of third-party services.
- *Emergency Planning, Response, and Recovery:* Emergency response preparedness is maintained through the identification of potential environmental emergencies, development of response plans, and the allocation of response and recovery resources.
- *Incident Reporting and Investigation:* Environmental incidents are promptly reported to appropriate management and corrective actions executed to reduce potential recurrences.
- *Communications and Stakeholder Engagement:* Internal and external communications are maintained to ensure effective environmental management and open and constructive dialogue with stakeholders.
- *Documentation and Recordkeeping:* Documents and records associated with environmental management are properly managed.
- *Assessing, Correcting, and Improving Performance:* Environmental management and performance are monitored and measures taken to continually improve environmental performance.

According to Barrick's "Annual Review 2006," in an effort to protect, reclaim, and enhance the environment on the sites in which Barrick operates, the EMSS will be required on all of Barrick's sites. The EMSS is scheduled to be fully implemented on a three-year schedule and, to help in its successful implementation, further tools and training will be added each year. For many of the Company's sites, full compliance with the EMSS will take only minor adjustments to their existing programs. For example, in 2006, Barrick's Lagunas Norte Mine received

ISO 14001 certification of its EMS, the third Barrick operation to achieve ISO 14001 certification.

In 2005, Barrick became one of the first signatories to the voluntary International Cyanide Management Code for the Gold Mining Industry, developed under cooperation with the United Nations Environment Programme. Additionally, in 2006, Barrick's Cowal Project was the first facility of any kind to receive International Cyanide Management Institute approval. For additional information about the code and the Institute, go to [www.cyanidecode.org](http://www.cyanidecode.org).

For detailed information about Barrick Gold's environmental performance, see [www.barrick.com/CorporateResponsibility](http://www.barrick.com/CorporateResponsibility). ■

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## Climate Change Update

### Bali Climate Talks Uncharacteristically Dramatic

For two weeks in early December 2007, a crowd of nearly 11,000 descended on Bali (Indonesia) for the 13th Conference of the Parties to the Kyoto Protocol (COP13). The Kyoto Protocol, the only international treaty aimed at curbing greenhouse gas (GHG) emissions, expires in 2012. The primary aim of COP13 was to hammer out a "roadmap" for negotiating a treaty to follow Kyoto; commitments for further GHG emissions reductions by developed countries ("Annex I" countries, with specific targets under the Protocol) and movement toward limiting GHG emissions by developing nations would be icing on the cake.

Expectations for the conference were low, according to early reports ("Getting Serious in Bali," *Economist.com*, 3 December 2007), with one un-named official postulating that, "Disappointment may come in a variety of different guises." But apathy of the participants and lack of drama were certainly not among the disappointments. The excitement began on opening day with the announcement by the newly sworn in Prime Minister (PM) of Australia, Kevin Rudd, (see following article) that he was signing documents to ratify the Kyoto Protocol. This also marked the beginning of a new era for the United States — now the sole developed Party to the United Nations Framework Convention on Climate Change (UNFCCC) to opt out of its legally binding GHG reductions under the Kyoto Protocol.

In fact, the isolation and faltering leadership of the United States was perhaps the dramatic focus of the conference. Not that the United States has been on the forefront of developing mandatory GHG limits or global climate change initiatives. The Clinton Administration's main objection to the Kyoto Protocol was the lack of

emissions targets for developing nations. The position of the Bush Administration has developed from an initial denial of the reality of climate change science and/or humans' role in GHG production, through concerns that only technological solutions could mitigate GHG emissions without undue economic hardship, and now appears to have come full circle, once more insisting that, without the participation of developing nations (notably China and India), any treaty will be ineffectual.

But it seems that many, both at home and abroad, feel that the United States, as the greater economic power, could afford to blink first. On 11 December 2007, Senator John Kerry (Democrat-Massachusetts), part of an alternative US delegation to the conference, said that a delegation from China, perhaps the world's biggest GHG emitter, told him at the Bali conference that it was ready to cut GHG emissions if the United States first sets mandatory reductions of its own. The message from China "was very, very significant," Kerry told reporters. "Every country [at the Bali conference] emphasized the importance of the [United States] to lead. Up to now, our absence has been an excuse for countries to postpone action."

Later in the week, Nobel laureate and former US Vice President Al Gore minced no words in his address to the delegates, saying, "My own country, the United States, is principally responsible for obstructing progress here in Bali. We all know that. But — my country is not the only one that can take steps to ensure that we move forward from Bali, with progress, and with hope." (See [www.undispatch.com/archives/2007/12/al\\_gores\\_bali\\_s.php](http://www.undispatch.com/archives/2007/12/al_gores_bali_s.php).) Critics noted that the US refusal to accept mandatory emissions reductions without the participation of developing countries is the same position that Gore

himself held while Vice President. Nonetheless, the speech was met with cheers and applause.

Gore's candor may have provided the opening needed for other countries' delegates to openly voice their dissatisfaction with the US negotiators, who conceded agreement only in the final hours of the conference. The US team endured booing and hissing in response to its perceived attempt to block a proposal during the final plenary, and Kevin Conrad, the negotiator from Papua New Guinea, admonished the Americans, "If for some reason you are not willing to lead, leave it to the rest of us. Please, get out of the way." Conrad's comment may also have alluded to an earlier statement made by James Connaughton, Chairman of the US White House Council on Environmental Quality, which had irritated some delegates. Connaughton was quoted by Reuters as saying, "The US will lead, and we will continue to lead, but leadership also requires others to fall in line and follow." ("Climate Plan Looks Beyond Bush's Tenure," *The New York Times*, 16 December 2007, [www.nytimes.com](http://www.nytimes.com).)

A "Bali Action Plan" was indeed forged in the last hours of the conference, with cheers from other delegates when lead US negotiator Paula Dobriansky (Under Secretary of State for Democracy and Global Affairs) said, "We came here to Bali because we want to go forward as part of a new framework. We believe we have a shared vision and we want to move that forward. We want a success here in Bali. We will go forward and join consensus."

Does the Bali Plan specify new GHG targets for developed countries? No. The plan states that "deep cuts in global emissions will be required," includes a grudgingly conceded footnote regarding carbon dioxide ranges for stabilization per the Fourth Assessment Report of the Intergovernmental Panel on Climate Change ([www.mnp.nl/ipcc/pages\\_media/AR4-chapters.html](http://www.mnp.nl/ipcc/pages_media/AR4-chapters.html)), and asks for "quantified emission limitation and reduction objectives" from developed countries.

Is there a clear role for developing nations? Not exactly. The plan asks that developing nations address "enhanced national/international action on mitigation of climate change," including the "consideration of nationally appropriate mitigation actions — in a measurable, reportable and verifiable manner."

Does the Bali Action Plan provide a roadmap? It's a start. The plan provides a two-year timetable for developing the Kyoto follow-up treaty — to be adopted at COP15 in Copenhagen, Denmark. Further "individual

decisions" were also agreed upon, including the launch of an Adaptation Fund financed by the Kyoto Protocol's Clean Development Mechanism (CDM), the start of a strategic program for technology transfer by the Global Environment Facility, a five-year extension of the mandate of the Expert Group on Technology Transfer, and adoption of a work program for "reducing emissions from deforestation in developing countries" (REDD). Given the dismal expectations for COP13, the outcome seems adequate. In any case, it was probably worth the trip — both geographically and emotionally. ■

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## Australia Offers to Be "Climate Bridge" to China

Kevin Rudd led Australia's Labor Party to victory in elections for Parliament on 24 November 2007. He replaced the Liberal Party's John Howard as Prime Minister. Howard became the first Australian Prime Minister since 1929 to lose his own seat in Parliament, as well as the first Liberal ever to lose that particular district.

For years, Howard had refused to ratify the Kyoto Protocol. He had not taken climate change at all seriously until very recently. Australia's ongoing severe drought and its connection to climate change was a major issue in the election.

Rudd said he wants to put Australia at the forefront of the worldwide fight against global warming. Rudd's first official act as Australian Prime Minister was to ratify the Kyoto Protocol on 3 December. The ratification comes into force in mid-March 2008.

Rudd called China's Premier Wen Jiabao for his first discussions with a foreign leader since being sworn in. Rudd told Wen he will act as a bridge between Beijing and the developed world in negotiations on cutting greenhouse gas emissions. China is under intense pressure from the West to agree to binding targets on carbon emissions. Wen seemed keen to take up Rudd's offer.

For more information, see <http://news.bbc.co.uk/2/hi/asia-pacific/7130106.stm>; [www.news.com.au/dailytelegraph/story/0,22049,22861676-5001028,00.html](http://www.news.com.au/dailytelegraph/story/0,22049,22861676-5001028,00.html); and [www.iht.com/articles/2007/12/02/asia/australia.php](http://www.iht.com/articles/2007/12/02/asia/australia.php). ■

## Business Leaders Call for UN Framework on Climate Change

Leaders from 150 global companies have published a communiqué calling for a comprehensive, legally binding United Nations (UN) framework to tackle climate change. The initiative, coordinated by the Prince of Wales, came shortly before UN climate negotiations were to begin in Bali, Indonesia. The communiqué states that climate change scientific evidence is now “overwhelming,” and that “climate change presents very serious global social, environmental and economic risks and it demands an urgent global response.” The business leaders note that the benefits of strong, early action on climate change outweigh the costs of not acting, and that the shift to a low-carbon economy will create significant business opportunities. Furthermore, a legally binding agreement “will provide business with the certainty it needs to scale up global investment in low-carbon technologies.”

In addition, the communiqué says the overall targets for emissions reduction must be guided primarily by science, rather than by competitiveness and cost concerns. It adds that evidence from the Intergovernmental Panel on Climate Change (IPCC) already points to a reduction being required of at least 50% by 2050, and that the “greatest effort” will need to be made by industrialized countries.

A separate coalition of environmental groups and US companies underwrote a report that analyzes how much it would cost to reduce US GHG emissions significantly by 2030. The report, by McKinsey & Co., examines 250 options. It concludes that the United States could cut greenhouse gas (GHG) emissions by 3.0 to 4.5 billion metric tons (Mt) per year, up to 28% below 2005 levels, using existing approaches and “high-potential emerging technologies,” even with considerable economic growth. The report suggests that these reductions, beginning with improved energy efficiency, can be achieved at less than US \$50 per Mt. Nearly 40% of these efforts would actually save money over the long term (i.e., cost less than \$0 per ton), it says. The measures range from storing carbon dioxide emissions from power plants to adopting no-till farming practices.

“Global warming is becoming a core driver for business and the American economy,” said Frances Beinecke, president of the Natural Resources Defense Council. “McKinsey has drawn up an excellent roadmap. But it’s up to Washington to get us out of the

driveway. We have a chance to get this right, but the window of opportunity is very short.”

John Marburger, US President Bush’s chief science adviser, said Bush seeks to reduce GHG emissions by making it easier for businesses to write off new equipment costs, higher vehicle fuel economy standards, and finally implementing new appliance efficiency standards. “We’re probably further ahead in actually doing something about [GHGs] than most other countries,” Marburger said.

But the business executives said that voluntary measures are not adequate. James Smith, chairman of Shell UK, said enforceable standards are necessary to “give business the confidence to make those long-term investments in lower-carbon technologies.” Tony Juniper, executive director of British Friends of the Earth, called this remarkable, because businesses were so opposed to mandatory GHG reductions during negotiations for the Kyoto Protocol in 1997. He said, “These businesses — see the threat of climate change, and they know that action needs to be taken, and that it makes economic sense to tackle climate change.”

For more, see [www.washingtonpost.com/wp-dyn/content/article/2007/11/29/AR2007112902039.html?hpid=sec-business](http://www.washingtonpost.com/wp-dyn/content/article/2007/11/29/AR2007112902039.html?hpid=sec-business) and [www.admin.cam.ac.uk/news/dp/2007112903](http://www.admin.cam.ac.uk/news/dp/2007112903). Portions of this article provided by CCH Washington Bureau, December 2007. ■

## White House Agrees Urgent Action Warranted

White House Council on Environmental Quality chairman Jim Connaughton said in November 2007 that a scientific definition of climate change is lacking at this time, although the Bush Administration acknowledges that urgent action on the issue is warranted. In a conference call to mark the release of the Intergovernmental Panel on Climate Change’s (IPCC) fourth assessment report (see Focus Report), Connaughton said that, in the absence of a scientific definition, the Administration is operating consistent with the Group of Eight (G8) consensus that “we need to bring forward, in a more accelerated way, the technology that will make a lasting solution possible.”

Sharon Hays, head of the US delegation to the IPCC, added that, with regard to what is considered dangerous climate change, “science simply can’t tell us what that number is. There are always going to be value judgments associated with it.”

CCH Washington Bureau, November 2007. ■

## Climate Change Bill Clears Senate Panel

The US Senate Environment and Public Works Committee has approved S.2191, America's Climate Security Act, by an 11 to 8 vote. S.2191 is based on the bill filed in early November 2007 by Senators John Warner and Joseph Lieberman. (See "Lieberman-Warner Climate Bill Hits the Senate," *BATE*, December 2007.) The bill seeks to reduce total US greenhouse gas (GHG) emissions by up to 70% of 2005 levels by 2050. It also establishes a cap-and-trade system to limit carbon emissions.

The bill covers only 74% of current US GHG emissions. It covers all sources that emit or supply more than 10,000 tons of carbon dioxide (CO<sub>2</sub>) equivalent per year in the electric power and industrial sectors, as well as transportation fuel providers. It does not cover residential and commercial CO<sub>2</sub> emissions, nor emissions of other GHGs. Some of those emissions are covered by various state or other federal programs. This gap and patchwork treatment yields some uncertainty in the bill's overall GHG reduction effect. The fading effectiveness of biological carbon sequestration compounds the uncertainty.

Under S.2191, CO<sub>2</sub> emissions from covered sources in 2012 could be no higher than they were in 2005. Overall GHG emissions, covered plus non-covered, would probably be 3–6% lower, considering all sources. The corresponding numbers increase each decade and, by 2050, the corresponding numbers would be 70% and 51–63% lower, respectively.

The bill includes incentives for states to adopt climate policies more stringent than federal ones, to adopt and enforce model building codes, to decouple electric and gas utility revenue from sales, and to make energy efficiency investments as profitable as increasing energy supplies. The bill requires regular updates to residential and commercial building codes. It sets aside 5% of the total allowance pool to promote increased biological sequestration in domestic farms and forests, plus 3% more for similar international efforts.

Senator Joseph Lieberman (Independent Democrat-Connecticut), a co-sponsor of the bill, predicted that "the momentum is clearly in favor of taking action on climate change before the end of the 110th Congress." He forecast a "wave of support and pressure" over the coming months to pass the bill in the Senate. The bill's other co-sponsor, Senator John Warner (Republican-Virginia), who acknowledged

that he was a "convert" to the issue of climate change, added that the United States "simply has to take a leadership role."

Senate Environment and Public Works Committee chairman Barbara Boxer (Democrat-California) called the bill "the most far reaching global warming bill in the world." Boxer said that, as the bill moves toward the Senate floor, the focus will remain on fighting global warming, while keeping the economy strong. Meanwhile, ranking member of the Environment and Public Works Committee Senator James Inhofe (Republican-Oklahoma) called the bill "fatally flawed," saying that Democrats chose to reject efforts to "mitigate the unintended consequences of this bill and ensure adequate future energy supplies for this nation."

Portions of this article provided by CCH Washington Bureau, December 2007. ■

## Airline Industry Says Bill Would Raise Tax Burden

The Air Transport Association (ATA) says climate change legislation passed by the US Senate Environment and Public Works Committee (see previous article) would greatly increase airline costs and compromise its ability to invest in new aircraft and other fleet upgrades. ATA president James C. May said that, by including jet fuel in a cap-and-trade greenhouse gas emissions trading scheme, S.2191, America's Climate Security Act, "essentially would serve as an unnecessary and additional tax on fuel." May called on the full Senate to give the legislation "a more deliberative review and to recognize that it is the wrong approach for commercial aviation."

Air Line Pilots Association (ALPA) President Captain John Prater said the legislation "piles an even heavier tax burden on an industry that already compares to the burden on alcohol, tobacco, gambling and firearms." Prater said the bill would compromise the proactive measures made by the industry in fuel efficiencies, while further threatening the airlines' financial recovery. It would also reward "dirtier" industries by giving them free allowances and special investment advantages, Prater said. "That sends the wrong signal to our nation's pilots, the airlines and the traveling public," he added.

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